

TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

10/018152

INTERNATIONAL APPLICATION NO.  
PCT/EP00/04523INTERNATIONAL FILING DATE  
19 May 2000  
(19.05.00)PRIORITY DATE CLAIMED:  
14 June 1999  
(14.06.99)TITLE  
CIRCUIT ARRANGEMENT FOR PROVIDING DESKTOP FUNCTIONALITIES FOR TELECOMMUNICATIONS TERMINALS USED IN  
COMPUTER-AIDED TELECOMMUNICATIONS

APPLICANT(S) FOR DO/EO/US

TRINKEL, Marian; SCHROEDER, Karsten; MÜLLER, Christel; ZIEM, Thomas; RUNGE, Fred; and ECKERT, Martin

Applicant(s) herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) immediately rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
- a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
- b. ☒ has been transmitted by the International Bureau.
- c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
- a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
- b. ☐ have been transmitted by the International Bureau.
- c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
- d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (UNSIGNED)
10. ☒ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
- ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☒ A substitute specification and a marked up version of the substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information: International Search Report, Preliminary Examination Report (translated); and PCT Form 105.

Express Mail No.: EV003628041

107018152

17. ☒ The following fees are submitted:

Basic National Fee (37 CFR 1.492(a)(1)-(5)):

Search Report has been prepared by the EPO or JPO ..... \$860.00

International preliminary examination fee paid to USPTO (37 CFR 1.482) ..... \$710.00

No international preliminary examination fee paid to USPTO (37 CFR 1.482) but  
international search fee paid to USPTO (37 CFR 1.445(a)(2)) ..... \$740.00Neither international preliminary examination fee (37 CFR 1.482) nor international  
search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$1,040.00International preliminary examination fee paid to USPTO (37 CFR 1.482) and all  
claims satisfied provisions of PCT Article 33(2)-(4) ..... \$100.00

CALCULATIONS | PTO USE ONLY

ENTER APPROPRIATE BASIC FEE AMOUNT = \$ 860

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months  
from the earliest claimed priority date (37 CFR 1.492(e)).

\$

Claims	Number Filed	Number Extra	Rate	
Total Claims	6 - 20 =	0	X \$18.00	\$0
Independent Claims	1 - 3 =	0	X \$84.00	\$0
Multiple dependent claim(s) (if applicable)			+ \$280.00	\$

TOTAL OF ABOVE CALCULATIONS = \$860

Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must  
also be filed. (Note 37 CFR 1.9, 1.27, 1.28).

\$

SUBTOTAL = \$860

Processing fee of \$130.00 for furnishing the English translation later the ☐ 20 ☐ 30  
months from the earliest claimed priority date (37 CFR 1.492(f)).

+

\$

TOTAL NATIONAL FEE = \$860

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be  
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property

+

\$

TOTAL FEES ENCLOSED = \$860

Amount to be  
refunded  
charged\$  
\$

- a. ☐ A check in the amount of \$\_\_\_\_\_ to cover the above fees is enclosed.
- b. ☒ Please charge my Deposit Account No. 11-0600 in the amount of \$860.00 to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 11-0600. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Kenyon & Kenyon  
One Broadway  
New York, New York 10004  
Telephone No. (212)425-7200  
Facsimile No. (212)425-5288

SIGNATURE

Richard L. Mayer, Reg. No. 22,490  
NAME

DATE

CUSTOMER NO. 26846

TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

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INTERNATIONAL APPLICATION NO.  
PCT/EP00/04523INTERNATIONAL FILING DATE  
19 May 2000  
(19.05.00)PRIORITY DATE CLAIMED:  
14 June 1999  
(14.06.99)TITLE  
CIRCUIT ARRANGEMENT FOR PROVIDING DESKTOP FUNCTIONALITIES FOR TELECOMMUNICATIONS TERMINALS USED IN  
COMPUTER-AIDED TELECOMMUNICATIONSAPPLICANT(S) FOR DO/EO/US  
TRINKEL, Marian; SCHRÖDER, Karsten; MÜLLER, Christel; ZIEM, Thomas; RUNGE, Fred; and ECKERT, Martin

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11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
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13. ☒ A **FIRST** preliminary amendment.  
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☒ A substitute specification and a marked up version of the substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information: International Search Report, Preliminary Examination Report (translated); and PCT Form 105.

Express Mail No.: EV003628041

[2345/171]

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s) : Marian TRINKEL et al.

Serial No. : To Be Assigned

Filed : Herewith

For : CIRCUIT ARRANGEMENT FOR PROVIDING DESKTOP  
FUNCTIONALITIES FOR TELECOMMUNICATIONS  
TERMINALS USED IN COMPUTER-AIDED  
TELECOMMUNICATIONS

Art Unit : To Be Assigned

Examiner : To Be Assigned

Assistant Commissioner  
for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

SIR:

Please amend without prejudice the above-identified application before  
examination, as set forth below.

**IN THE TITLE:**

Please replace the title with the following:

--CIRCUIT ARRANGEMENT FOR PROVIDING DESKTOP FUNCTIONALITIES  
FOR TELECOMMUNICATIONS TERMINALS USED IN COMPUTER-AIDED  
TELECOMMUNICATIONS--.

24003628041

**IN THE CLAIMS:**

Without prejudice, please cancel original claims 1 to 6 in the original application, and please add new claims 7 to 12 as follows:

7. (New) A circuit arrangement to provide a desktop functionality for a telecommunications terminal used in computer-aided telecommunications, comprising:

an intelligent telecommunications system having a connection to a public telephone network and being linked via an integration element, wherein the intelligent telecommunications system includes a computer system, a software layer, and a connection element, the intelligent telecommunications system being connected to a local area network, an electronic data processing system being connected to the local area network,

wherein the local area network is connected to a web server and wherein any access via at least one of a system-bound telephone and an internet telephone is provided with desktop control and status-display functions and call-related data in a dynamic interface of a web browser, any functional scope of the desktop control and status-display functions and the call-related data being provided and an application interface being defined by at least one web document stored on the web server.

8. (New) The circuit arrangement of claim 7 wherein the internet telephone is assigned to the electronic data processing system.

9. (New) The circuit arrangement of claim 7 wherein the internet telephone is assigned to the local area network.

10. (New) The circuit arrangement of claim 7 wherein to provide server-based control and status display and to make available call-related data at the local area network, a server is connected via which the internet telephone connected to at least one of the local area network and the electronic data processing system is controlled, the server connected being designed as an internet-telephone manager.

11. (New) The circuit arrangement of claim 7 wherein for call processing, a gateway element is connected via a trunk circuit to the local area network, the gateway element being

at least one of an integral component of the intelligent telecommunications system and linked via telephone lines to the intelligent telecommunications system.

12. (New) The circuit arrangement of claim 7 wherein a connection element is located at the local area network, the connection element allowing communication between a user and subscribers outside of the local area network via the internet.

### **REMARKS**

This Preliminary Amendment cancels without prejudice original claims 1 to 6 in the underlying PCT Application No. PCT/EP00/04523, and adds without prejudice new claims 7 to 12. The new claims conform the claims to U.S. Patent and Trademark Office rules and do not add new matter to the application.

The underlying PCT Application No. PCT/EP00/04523 includes an International Search Report, dated September 21, 2000. The Search Report includes a list of documents that were uncovered in the underlying PCT Application. A copy of the Search Report accompanies this Preliminary Amendment.

The underlying PCT Application No. PCT/EP00/04523 also includes an International Preliminary Examination Report, dated November 14, 2001, and an annex (including revised pages 2 and 2a, associated with the International Preliminary Examination Report). An English translation of the International Preliminary Examination Report and of the annex accompanies this Preliminary Amendment. The Substitute Specification reflects the revised pages 2 and 2a associated with the International Preliminary Examination Report.

Applicants assert that the subject matter of the present application is new, non-obvious, and useful. Prompt consideration and allowance of the application are respectfully requested.

Respectfully Submitted,

KENYON & KENYON

Dated: 12/14/01

By: 

Richard L. Mayer  
(Reg. No. 22,490)

One Broadway  
New York, NY 10004  
(212) 425-7200 (telephone)  
(212) 425-5288 (facsimile)

**CUSTOMER NO. 26646**

1/10/10

[2345/1711]

CIRCUIT ARRANGEMENT FOR PROVIDING DESKTOP FUNCTIONALITIES  
FOR TELECOMMUNICATIONS TERMINALS USED IN  
COMPUTER-AIDED TELECOMMUNICATIONS

The present invention is directed to a circuit arrangement for providing desktop functionalities for telecommunications terminals used in computer-aided telecommunications. Telecommunications terminals are understood to include, for example, both telephones at TK systems, as well as Internet telephones.

From German Patent DE 195 08 076 C2, a circuit arrangement for integrating a voice system in EDP systems and telephone systems is known, which is linked to the public telephone network. The basis for this approach is that the EDP systems and the voice system are linked via a LAN, with the involvement a LAN server, and via an integration element, to an intelligent TKA system. In this context, the integration element 7, which includes a computer system 9, a software layer 10 and an SDLC- or ISDN-, respectively Euro-ISDN connection element 11, is configured between the intelligent telecommunications system/TKA 2 and the EDP System 8. The approach is further characterized in that the voice system includes a voice medium 12 having a speech memory 13 and a speech management 14, which is assigned in controllable fashion by the integration element 7, with the involvement of the LAN 5 and a file server 6, to the intelligent TKA 2 or to a plurality of intelligent telecommunications systems. The intelligent TKA 2 directs calls, as needed, to the voice medium 12, the speech management 14 identifying a caller via the LAN 5 or, itself, obtaining the caller-specific identification data using the speech of the speech memory 13, in that, at the same time, the



integration element 7 transfers information, such as the caller's ultimate destination and the busy condition of the ultimate destination to the speech management 14, so as to make available, from the speech memory 13, the speech necessary for communication with the caller.

To make CTI functions available to an operator/user at his or her electronic data processing system (EDP system 8), in accordance with the above described approach, one must either install a special CTI application software, such as CSB-ETB (firm CSB System AG, [www.csb.de](http://www.csb.de)) on the EDP system 8, or use universal communications applications, such as MS Outlook, which then need to be upgraded to include the desired CTI functionality (Office EDITION, firm Dr. Materna GmbH, [www.materna.de](http://www.materna.de)). The result, therefore, for all affected users/clients in the local network is an increased outlay for software installation and maintenance services. A further drawback associated with the required special application approaches is that they are usually equipped with their own address databases, as well as activity journals, making it necessary for the user to access different data files for the various forms of communication. In addition, control and status-display functions of telephones, which are linked to TK systems, are provided by the EDP system 8, using separate application software, e.g., CSB-ETB (firm CSB System AG, [www.esb.de](http://www.esb.de)). For Internet telephone functions, a separate software is likewise used, such as the Internet phone (firm VocalTec Communications). This further increases the outlay for software installation and maintenance services for all users/clients in the local network. In addition, the user is confronted with different operational structures. A further disadvantage is that additional software is also required, in turn, for the synchronization of conventional telecommunications and Internet telephony.

To make desktop functionalities available to a user for his or her telecommunications terminals, one must either create new applications programs or expand existing programs to include these functions. Thus, this entails an increased outlay for software installation and maintenance services for all users in the network. A further drawback is that some desktop software approaches do not permit any administration by the user.

The object of the present invention is to provide both the users of system-bound telecommunications terminals, as well as the users of Internet telephones, with flexible desktop functionalities, which will avoid the above-described, related-art disadvantages. In so doing, the intention is to minimize, in particular, the outlay entailed by the operator/user to install and maintain the software required for desktop functions.

The approach of the present invention is based on the basic circuit known from German Patent DE 195 08 076 C2, composed of an intelligent TKA 2, which has a connection to public telephone network 3 and which is linked to an integration element 7, composed of a computer system 9, a software layer 10, and a connection element 11.

Integration element 7 is connected to a LAN 5. An EDP system 8 is connected to LAN 5. Integration element 7 may be linked both via LAN 5, as well as directly via the SDLC- or ISDN-, i.e., Euro-ISDN connection element, or also via other suitable data interfaces to intelligent TK system 2. For telecommunications terminals (telephones), which are allocated either in cabled or wireless fashion to a TK system, (intelligent TKA2 and telephone 1), the present invention provides for a web server 15 to be connected to LAN 5 to make available control and status-display CTI functions, as well as call-related

data. The CTI control and status-display functions of telecommunications terminals, as well as elements for displaying and inputting call-related data, are made available to the user, via web server 15, in dynamic interfaces of a Web browser. Call-related data are understood to be both general information pertaining to the particular call, such as call numbers or clock times, as well as special information on the people involved, their relationships to one another, and information, which is to be correlated with the call content. This information may be loaded, as needed, from various data files.

The functional scope and the application interface for the CTI functions to be made available to the user, as well as the call-related data, are defined by one or a plurality of Web document(s) stored on Web server 15. Following each process of loading the Web document(s) provided by Web server 15, each user always receives the latest version.

The layout of the interface is automatically adapted to the status, e.g., of telecommunications terminal 1. This means that the information presented to the user and the functions made available to him or her are exclusively those required for the action he or she initiated, i.e., those which are, in fact, useful for the initiated action.

Data, such as addresses or activity journal entries from other communications software modules may be read over appropriate interfaces, displayed, and written in there, without the user having to modify his or her corresponding application software.

If the user has an Internet telephone, located, for example at LAN 5 or EDP system 8, then the control and status-display functions, as well the call-related data, are made available via Web server 15, for the Internet telephone 18 or 21 in question, in dynamic interfaces of a Web browser.

For the system-bound telecommunications terminals 1, as well as for Internet telephones 18 or 21, the functional scope and the application interface are defined by one or a plurality of Web document(s) stored on the Web server 15. During every loading process, each user always receives the latest version of the Web document.

The layout of the interface is configured such that it is always automatically adapted to the status of the particular telephone 1 of intelligent TKA 2 and/or to the status of the particular Internet telephone 18 or 21. This means that the information presented to the user and the functions made available to him or her are exclusively those required or, in fact, useful for the particular action.

Data, such as addresses or activity journal entries from other communications software modules may be read over appropriate interfaces, displayed, and written in there, without the need for modifying the corresponding application software. When a user logs onto the network, a user authentication is expediently carried out, in conjunction with the granting of use rights, before a document is loaded for the first time from Web server 15. This can be done either by way of a password query, or through a smart card belonging to the user.

One further embodiment provides for configuring a server as an Internet-telephone manager 20 at LAN 5.

Internet-telephone manager 20 controls the Internet telephones which are connected to LAN 5 or via EDP system 8, such as Internet telephones 21 and 18, and communicates with EDP system 8. This renders possible a server-based control and status display and/or provision of call-related data.

An Internet connection element (16) is provided at LAN (5) for Internet telephones 18 and 21. Using Internet connection element 16, it is possible to communicate via Internet (17) with subscribers outside of LAN (5) and to enable an Internet access for at least one telecommunications terminal of the user. When system-bound telecommunications terminals are involved, such as telephone 1, remote access from various EDP systems, both at LAN 5, as well as over the entire world, is made possible over an Internet connection via connection element 16.

In the process, the statuses and functions of conventional system-bound telephones 1, which are connected, for example, to intelligent TKA 2, and those of an Internet telephone 18 or 21, are coordinated with one another, depending on the requirements of the user. For examples, functions such as call forwarding, call parking, brokering, call transfer, and teleconferencing may be synchronized and, moreover, also be utilized as directional functions. Thus, if telephone 1 or Internet telephone 18 or 21 is busy, incoming calls at the respective, other telecommunications terminal may be directed to new destinations in accordance with rules established by the user.

Another embodiment of the approach is based on the use of a gateway element 19, which is an integral component of

TK system 2, i.e., is connected via telephone lines to TK system 2. Gateway element 19 is linked via another trunk circuit to LAN 5. The use of a gateway element 19 for coupling different networks (gateway) opens up to the user the possibility of communicating over one single telecommunications terminal, by making proper routing adjustments and, in case of need, e.g., in telephone conferences, of interconnecting calls over various line types.

With respect to the system configuration, there are different design variants. Depending on the user's specific requirements, one may, in some instances, do without a file server 6. Moreover, the functions of file server 6, of integration element 7, of voice medium 12, of Internet connection element 16, as well as of gateway element 19 may be integrated in one single module or be distributed in different useful components among a plurality of modules, depending on the requirements and the handling capacity of these components.

# List of Reference Numerals

	1	telecommunications terminal (telephone)
	2	intelligent TKA
5	3	public telephone network
	4	CLI
	5	LAN
	6	file server
	7	integration element
10	8	EDP system
	9	computer system
	10	software layer
	11	connection element
	12	voice medium
15	13	speech memory
	14	speech management
	15	Web server
	16	Internet connection element
	17	Internet
20	18	Internet telephone
	19	gateway element
	20	Internet telephone manager
	21	Internet telephone

25

What is claimed is:

1. A circuit arrangement for providing desktop functionalities for telecommunications terminals used in computer-aided telecommunications, comprised of an intelligent TKA (2), which has a connection to the public telephone network (3) and which is linked via an integration element (7), made up of computer system (9), software layer (10), and connection element (11), connected to a LAN (5), an EDP system (8) being connected to the LAN (5), wherein the LAN (5) is connected to a Web server (15), over which the user of at least one system-bound telephone (1) and/or of an Internet telephone (18;21) is provided with desktop control and status-display functions, as well as call-related data in the dynamic interfaces of a Web browser, the functional scope of the functions and data to be provided and the application interface being defined by at least one Web document which is stored on a Web server (15).
2. The circuit arrangement as recited in Claim 1, wherein the Internet telephone (18) is assigned to the EDP-System (8).
3. The circuit arrangement as recited in Claim 1, wherein the Internet telephone (21) is assigned to the LAN (5).
4. The circuit arrangement as recited in Claim 1, wherein to provide a server-based control and status display, and to make available call-related data at the LAN (5), a server is connected, which is designed as an Internet-telephone manager (20), over



which the Internet telephones (21;18) connected to the LAN (5), as well as those connected to the EDP system (8), are controlled.

5. The circuit arrangement as recited in Claim 1, wherein for call processing, a gateway element (19) is connected via a trunk circuit to the LAN (5), the gateway element (19) being an integral component of the TK system (2) and/or being linked via telephone lines to the TK system (2).
6. The circuit arrangement as recited in Claim 1, wherein a connection element (16), which makes it possible for the user to communicate via the Internet (17) with subscribers outside of the LAN (5), is located at the LAN (5).

## Abstract

A circuit arrangement for providing desktop functionalities for telecommunications terminals used in computer-aided telecommunications. The object of the present invention is to provide both the users of system-bound telecommunications terminals, e.g. telephone (1), as well as the users of Internet telephones (18;21), with flexible desktop functionalities. The approach of the present invention is based on a basic circuit, composed of an intelligent TKA (2), which has a connection to the public telephone network (3) and which is linked to an integration element (7). An EDP system (8) is connected via a LAN (5) to the integration element (7). To fulfill the technical objective, a Web server (15) is connected to the LAN (5). In accordance with one practical embodiment of the present invention, a gateway element (19), which is preferably integrated in the intelligent TKA (2), is additionally connected to the LAN (5). The gateway element (19) is used, in particular, for coupling different networks (gateway). Figure 1

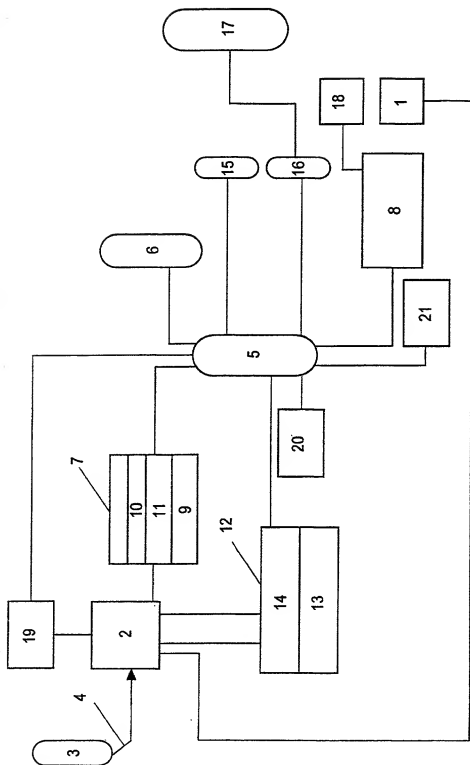


Fig.

[2345/171]

CIRCUIT ARRANGEMENT FOR PROVIDING DESKTOP FUNCTIONALITIES  
FOR TELECOMMUNICATIONS TERMINALS USED IN  
COMPUTER-AIDED TELECOMMUNICATIONS

FIELD OF THE INVENTION

The present invention is directed to a circuit arrangement for providing desktop functionalities for telecommunications terminals used in computer-aided telecommunications. Telecommunications terminals may include, for example, both telephones at private telecommunications systems, as well as internet telephones.

BACKGROUND INFORMATION

The reference German Patent DE 195 08 076 C2 purportedly concerns a circuit arrangement for integrating a voice system in electronic data processing (EDP) systems and telephone systems which is linked to the public telephone network. A basis for this approach may be that the EDP systems and the voice system are linked via a local area network (LAN), with the involvement a local area network server, and via an integration element, to an intelligent telecommunications system (TK system or TKA). In this context, the integration element 7, which includes a computer system 9, a software layer 10 and a synchronous data link control (SDLC) or integrated services digital network (ISDN), respectively Euro-ISDN connection element 11, is configured between the intelligent telecommunications system 2 and the EDP System 8. The voice system includes a voice medium 12 having a speech memory 13 and a speech management 14, which is assigned in controllable fashion by the integration element 7, with the involvement of the LAN 5 and a file server 6, to

SUBSTITUTE SPECIFICATION

2v003628041

the intelligent TKA 2 or to a plurality of intelligent telecommunications systems. The intelligent TKA 2 directs calls, as needed, to the voice medium 12, the speech management 14 identifying a caller via the LAN 5 or, itself, obtaining the caller-specific identification data using the speech of the speech memory 13, in that, at the same time, the integration element 7 transfers information, such as the caller's ultimate destination and the busy condition of the ultimate destination to the speech management 14, so as to make available, from the speech memory 13, the speech necessary for communication with the caller.

To make computer telephone integration (CTI) functions available to an operator/user at his or her electronic data processing (EDP) system 8, in accordance with the above described approach, one must either install a special CTI application software, such as CSB-ETB (firm CSB System AG, [www.csb.de](http://www.csb.de)) on the EDP system 8, or use universal communications applications, such as MS Outlook, which then need to be upgraded to include the desired CTI functionality (Office EDITION, firm Dr. Materna GmbH, [www.materna.de](http://www.materna.de)). The result, therefore, for all affected users/clients in the local network is an increased outlay for software installation and maintenance services. A further drawback associated with the required special application approaches is that they are usually equipped with their own address databases, as well as activity journals, making it necessary for the user to access different data files for the various forms of communication. In addition, control and status-display functions of telephones, which are linked to intelligent telecommunications systems, are provided by the EDP system 8, using separate application software, e.g.,

**SUBSTITUTE SPECIFICATION**

CSB-ETB (firm CSB System AG, www.esb.de). For Internet telephone functions, a separate software is likewise used, such as the Internet phone (firm VocalTec Communications). This may further increase the outlay for software installation and maintenance services for all users/clients in the local network. In addition, the user is confronted with different operational structures, interfaces or environments. Additional software is also required, in turn, for the synchronization of available telecommunications and internet telephony.

To make desktop functionalities available to a user for his or her telecommunications terminals, one must either create new applications programs or expand existing programs to include these functions. Thus, this entails an increased outlay for software installation and maintenance services for all users in the network. Further, some desktop software approaches do not permit any administration by the user.

The reference WO 98/49809A purportedly concerns a switch-free, automatic call distribution system (ACD) which is used to distribute incoming calls to call agents, which are networked via an economically priced data network, such as an Ethernet. Normal calls from the available telephone network service (POTS) come in from the public telephone network (PSTN), whereupon a POTS/packet gateway digitizes the signal and compresses it. The POTS/packet gateway then converts the signal into a packeted format. In reaction to a call distribution algorithm, the caller's packeted voice signals are distributed via the Ethernet to the agent. At the same time, documents are generated which contain database information pertaining to the caller. These documents are distributed to the

agents via the Ethernet.

#### SUMMARY OF THE INVENTION

5 The present invention is directed to eliminating the switching exchange device which belongs to available automatic call distribution.

10 In the reference, A. Catchpole, "Voice-Data Convergence and the Corporate Voice-Over-IP Trial", British Telecommunications Engineering, GB, British Telecommunications Engineering, London, vol. 17, no. 4, January 1999 (1999-01), pages 218-224, XP000801951 ISSN: 0262-401X, a Voice-Over-IP (VoIP) system is purportedly reproduced in Figure 3, where IP telephones are directly  
15 linked to a LAN.

20 The present invention is directed to providing both the users of system-bound, or system dependent, telecommunications terminals, as well as the users of Internet telephones, with flexible desktop functionalities, and thus, may minimize the outlay entailed by the operator/user to install and maintain the software required for desktop functions.

#### BRIEF DESCRIPTION OF THE DRAWING

25 The Figure shows an exemplary embodiment circuit according to the present invention.

#### DETAILED DESCRIPTION

30 The Figure, purportedly related to a basic circuit discussed in the reference German Patent No. 195 08 076, is composed of an intelligent telecommunications system (TKA) 2, which has a connection to public telephone network 3 and which is linked to an integration element

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7, composed of a computer system 9, a software layer 10, and a connection element 11.

Integration element 7 is connected to a LAN 5. An EDP system 8 is connected to LAN 5. Integration element 7 may be linked both via LAN 5, as well as directly via the SDLC- or ISDN-, i.e., Euro-ISDN connection element, or also via other suitable data interfaces to intelligent telecommunications system 2. For telecommunications terminals, e.g., telephones, which are allocated either in cabled (or line-conducted) or wireless (or cordless) fashion to a telecommunications system, e.g., an intelligent telecommunications system 2 and telephone 1, a web server 15 may be connected to LAN 5 to make available control and status-display CTI functions, as well as call-related data. The CTI control and status-display functions of telecommunications terminals, as well as elements for displaying and inputting call-related data, may be made available to the user, via web server 15, in dynamic interfaces or dynamic graphical user interfaces of a Web browser. Call-related data may be understood to be both general information pertaining to the particular call, such as call numbers or clock times, as well as special information on the people involved, their relationships to one another, and other information, which is to be correlated with the call content. This information may be loaded, as needed, from various data files and/or databases.

The functional scope and the application interface for the CTI functions to be made available to the user, as well as the call-related data, may be defined by one or a plurality of web document(s) stored on web server 15. Following each process of loading the web document(s)



provided by web server 15, each user may always receive the latest version.

5 The layout of the interface is automatically adapted to the status, e.g., of telecommunications terminal 1. This means that the information presented to the user and the functions made available to him or her are exclusively those required for the action he or she initiated, i.e., those which are, in fact, useful for the initiated  
10 action.

Data such as addresses or activity journal entries from other communications software modules may be read over appropriate interfaces, displayed, and written in there,  
15 without the user having to modify his or her corresponding application software.

If a user has an internet telephone, located, for example, at LAN 5 or EDP system 8, then the control and status-display functions, as well the call-related data,  
20 may be made available via web server 15, for the internet telephone 18 or 21, in dynamic interfaces of a web browser.

25 For the system-bound telecommunications terminals 1, as well as for internet telephones 18 or 21, the functional scope and the application interface may be defined by one or a plurality of web document(s) stored on the web server 15. During every loading process, each user may  
30 always receive the latest version of the Web document.

The layout of the interface may be configured such that it is always automatically adapted to the status of the particular telephone 1 of intelligent TKA 2 and/or to the

status of the particular Internet telephone 18 or 21.  
This means that the information presented to the user and  
the functions made available to him or her may be  
exclusively those required or, in fact, useful for the  
particular action.

Data, such as addresses or activity journal entries from  
other communications software modules may be read over  
appropriate interfaces, displayed, and written in there,  
without the need for modifying the corresponding  
application software. When a user logs onto the network,  
a user authentication may be expediently carried out, in  
conjunction with the granting of use rights, before a  
document is loaded for the first time from web server 15.  
This can be done either by way of, for example, a  
password query or through a smart card belonging to the  
user.

A further embodiment of the present invention provides  
for configuring a server as an internet-telephone manager  
20 at LAN 5. Internet-telephone manager 20 controls the  
internet telephones which are connected to LAN 5 or via  
EDP system 8, such as internet telephones 21 and 18, and  
communicates with EDP system 8. This renders possible a  
server-based control and status display and/or provision  
of call-related data.

An internet connection element (16) is provided at LAN  
(5) for internet telephones 18 and 21. Using Internet  
connection element 16, it is possible to communicate via  
internet (17) with subscribers outside of LAN (5) and to  
enable an internet access for at least one  
telecommunications terminal of the user. When  
system-bound telecommunications terminals are involved,

such as telephone 1, remote access from various EDP systems, both at LAN 5, as well as over the entire world, may be made possible over an internet connection via connection element 16.

5 In the process, the statuses and functions of conventional or available system-bound telephones 1, which are connected, for example, to intelligent telecommunication system(s) 2, and those of an internet  
10 telephone 18 or 21, may be coordinated with one another, depending on the requirements of the user. For example, functions such as call forwarding, call parking, brokering (or alternating between two lines), call transfer, and teleconferencing may be synchronized and,  
15 moreover, also be utilized as directional functions. Thus, if telephone 1 or Internet telephone 18 or 21 is busy, incoming calls at the respective, other telecommunications terminal may be directed to new destinations in accordance with rules established by the  
20 user.

Alternatively or in conjunction with that above, an embodiment based on the use of a gateway element (or network interworking facility) 19, which is an integral  
25 component of telecommunication system 2, i.e., is connected via telephone lines to telecommunication system 2. Gateway element 19 is linked via another trunk circuit (or connecting line) to LAN 5. The use of a gateway  
30 element 19 for coupling different networks (gateway opens up to the user the possibility of communicating over one single telecommunications terminal, by making proper routing adjustments and, in case of need, e.g., in telephone conferences, of interconnecting calls over various line types.

With respect to the system configuration, there are different design variants. Depending on the user's specific requirements, one may, in some instances, do without a file server 6. Moreover, the functions of file server 6, of integration element 7, of voice medium 12, of internet connection element 16, as well as of gateway element 19, may be integrated in one single module or be distributed in different useful components among a plurality of modules, depending on the requirements and the handling capacity of these components.

# ABSTRACT

A circuit arrangement for providing desktop functionalities for telecommunications terminals used in computer-aided telecommunications. Both the users of system-bound telecommunications terminal, e.g., telephones, as well as the users of internet telephones, may be provided with flexible desktop functionalities, based on a basic circuit, composed of an intelligent telecommunications system which may have a connection to the public telephone network and which may be linked to an integration element. An electronic data processing system may be connected via a local area network to the integration element. A web server may be connected to the local area network. Further, a gateway element, which may be integrated in the intelligent telecommunications system, may additionally be connected to the local area network. The gateway element may be used for coupling different networks (gateway).

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**DECLARATION AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **CIRCUIT ARRANGEMENT FOR PROVIDING DESKTOP FUNCTIONALITIES FOR TELECOMMUNICATIONS TERMINALS USED IN COMPUTER-AIDED TELECOMMUNICATIONS**, the specification of which was filed as International Application No. PCT/EP00/04523 on May 19, 2000 and filed as a U.S. application having Serial No. 10/018,152 on December 14, 2001 for Letters Patent in the U.S.P.T.O.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**PRIOR FOREIGN APPLICATION(S)**

Number	Country Filed	Day/Month/Year	Priority Claimed Under 35 USC 119
199 28070.3	Fed. Rep. of Germany	June 14, 1999	Yes

And I hereby appoint Richard L. Mayer (Reg. No. 22,490), Gerard A. Messina (Reg. No. 35,952) and Linda M. Shudy (Reg. No. 47,084) my attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Please address all communications regarding this application to:

KENYON & KENYON  
One Broadway  
New York, New York 10004

CUSTOMER NO. 26646

Please direct all telephone calls to Richard L. Mayer at (212) 425-7200.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful and false statements may jeopardize the validity of the application or any patent issued thereon.

100 Inventor:

Marian TRINKEL

Inventor's Signature:

*Marian Trinkel*

Date: 20.2.2002

Residence:

Am Dehlbach 13

52393 Hürtgenwald

Federal Republic of Germany

*Waschpöhl 146*

*52372 Kreuzau*

*DEU*

*Marian Trinkel*

*20/2/2002*

Citizenship: German

Office Address: Same as above.



200 Inventor: Karsten SCHRÖDER

Inventor's Signature: K. Schröder

Date: 15/04/02

Residence: Karpfenteichstr. 1  
12435 Berlin  
Federal Republic of Germany DEX

Citizenship: German

Office Address: Same as above.

Inventor:

Christel MÜLLER

300

Inventor's Signature:

Christel Müller

Date: 22.02.2002

Residence:

Im Gehölz 16

15732 Schulzendorf

Federal Republic of Germany DEX

Citizenship: German

Office Address: Same as above.

Inventor: Thomas ZIEM

400

Inventor's Signature: Thomas Ziem

Date: 02.02.2002

Residence: ~~Getzaler Str. 11~~ Berliner Str. 9a  
~~16341 Zepernick~~ 16321 Schönow  
Federal Republic of Germany DEX Thomas Ziem

Citizenship: German

Office Address: Same as above.

Inventor: Fred RUNGE

500

Inventor's Signature: Fred RUNGE

Date: 25.02.2002

Residence: Birkenstr. 4  
15838 Wünsdorf  
Federal Republic of Germany DEX

Citizenship: German

Office Address: Same as above.

Inventor: Martin ECKERT

Inventor's Signature: M. Eckert

Date: 04.03.2002

Residence: Hartriegelstr. 46  
12439 Berlin  
Federal Republic of Germany DEX

Citizenship: German

Office Address: Same as above.